4.2.C. 0604000203 (Duck River).

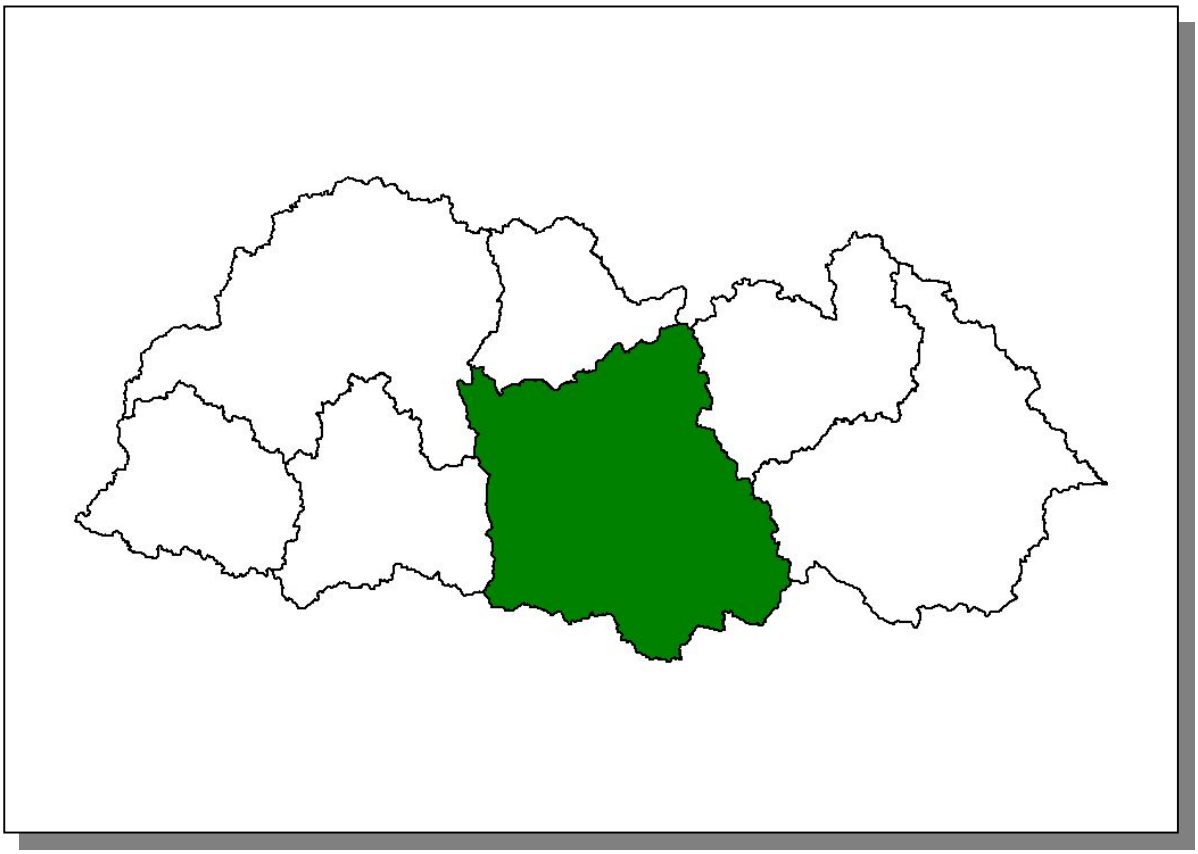

Figure 4-27. Location of Subwatershed 0604000203. *All Upper Duck HUC-10 subwatershed boundaries are shown for reference.*

4.2.C.i. General Description.

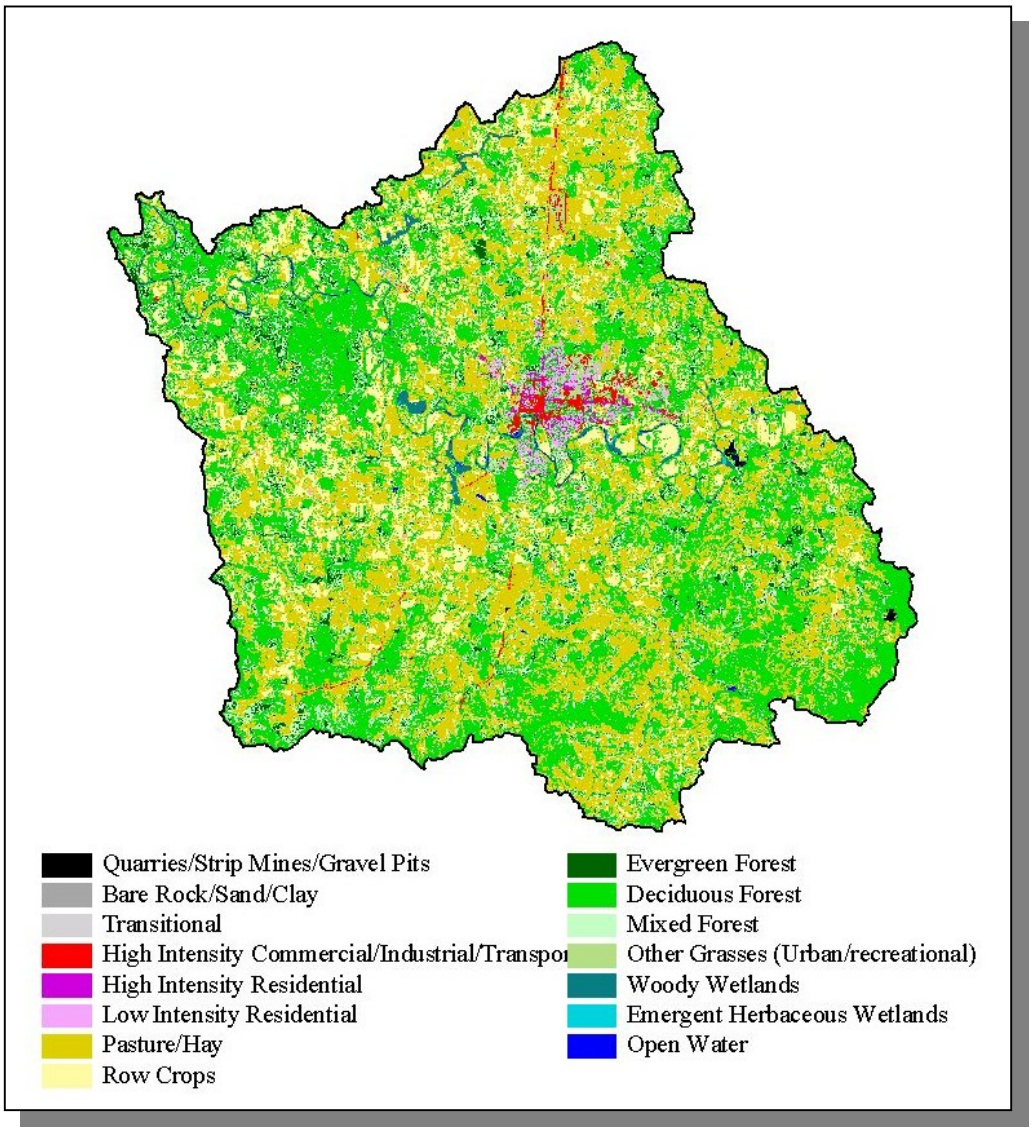

Figure 4-28. Illustration of Land Use Distribution in Subwatershed 0604000203.

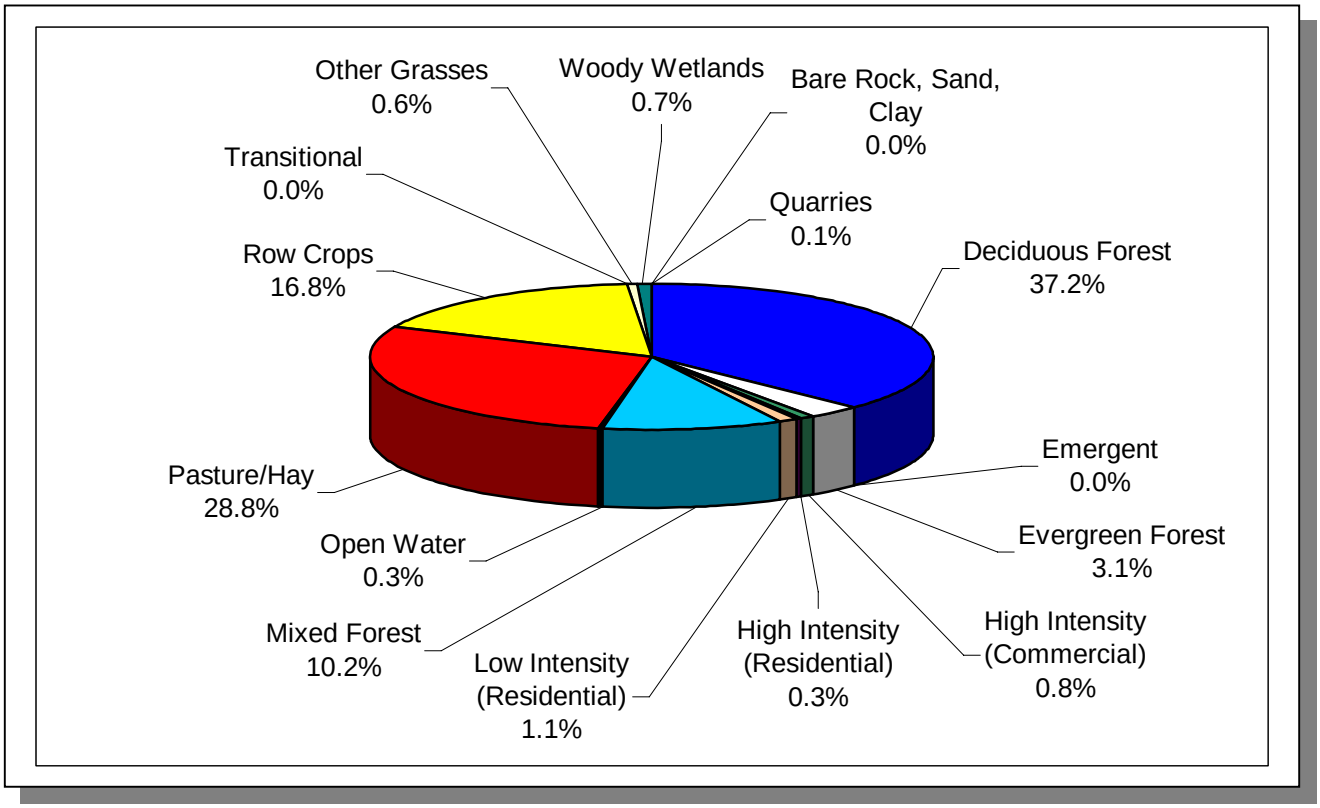

Figure 4-29. Land Use Distribution in Subwatershed 0604000203. *More information is provided in Appendix IV.*

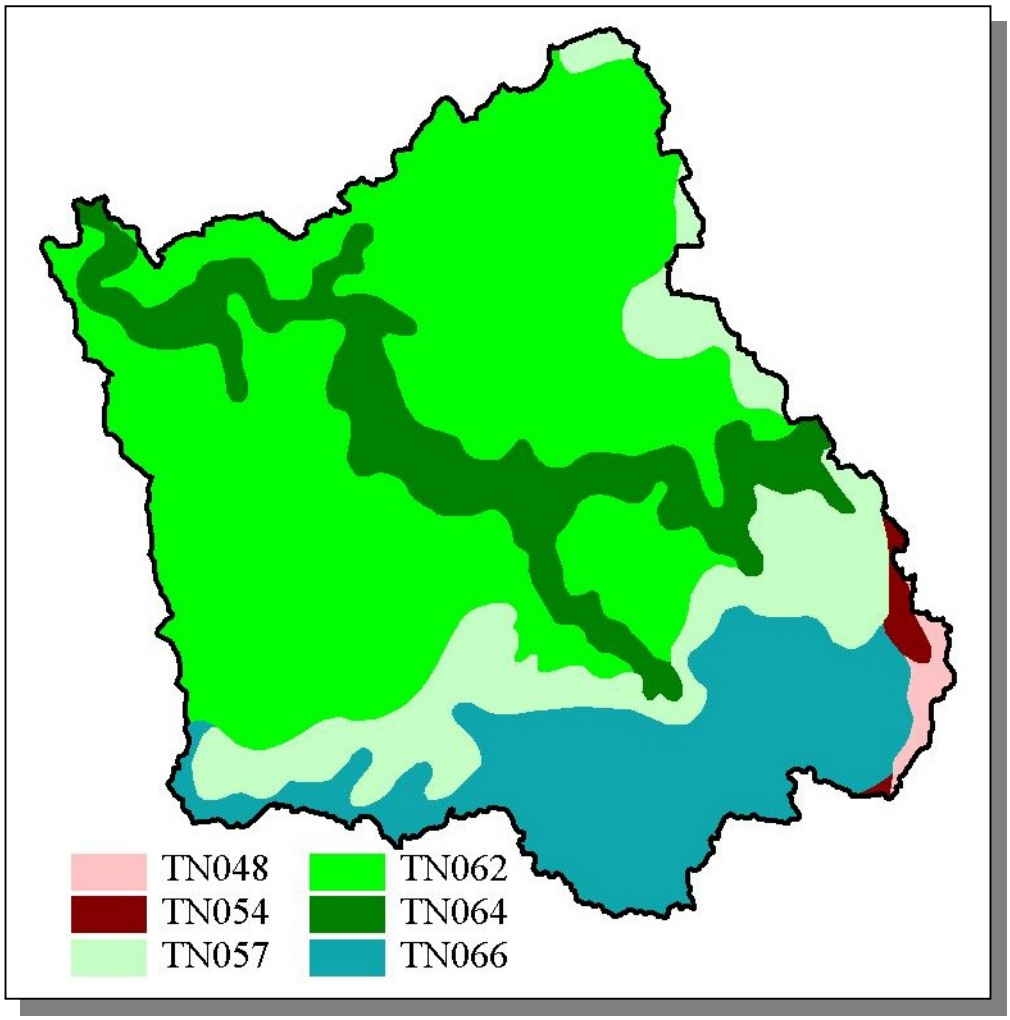

Figure 4-30. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 0604000203.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN048	8.00	C	1.38	5.06	Silty Loam	0.42
TN054	0.00	C	3.04	4.84	Loam	0.32
TN057	8.00	C	1.14	5.01	Clayey Loam	0.33
TN062	0.00	C	0.98	4.40	Clayey Loam	0.26
TN064	7.00	C	1.19	5.82	Silty Loam	0.37
TN066	0.00	B	2.62	4.75	Loam	0.28

Table 4-18. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 0604000203. *More information is provided in Appendix IV.*

	COUNTY POPULATION				ESTIMATED POPULATION IN WATERSHED			
County	1990	1997	2000	Portion of Watershed (%)	1990	1997	2000	% Change (1990-1997)
Bedford	30,411	34,203	37,586	53.97	16,412	18,458	20,284	23.6
Lincoln	28,157	29,336	31,340	0.48	135	141	150	11.1
Marshall	21,539	25,687	26,767	0.37	79	94	98	24.1
Moore	4,721	5,205	5,740	7.66	362	399	440	21.5
Totals	**84,828**	**94,431**	**101,433**		**16,986**	**19,092**	**20,972**	**23.5**

Table 4-19. Population Estimates in Subwatershed 0604000203.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Shelbyville	Bedford	14,049	6,163	5,846	299	18

Table 4-20. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 0602000203.

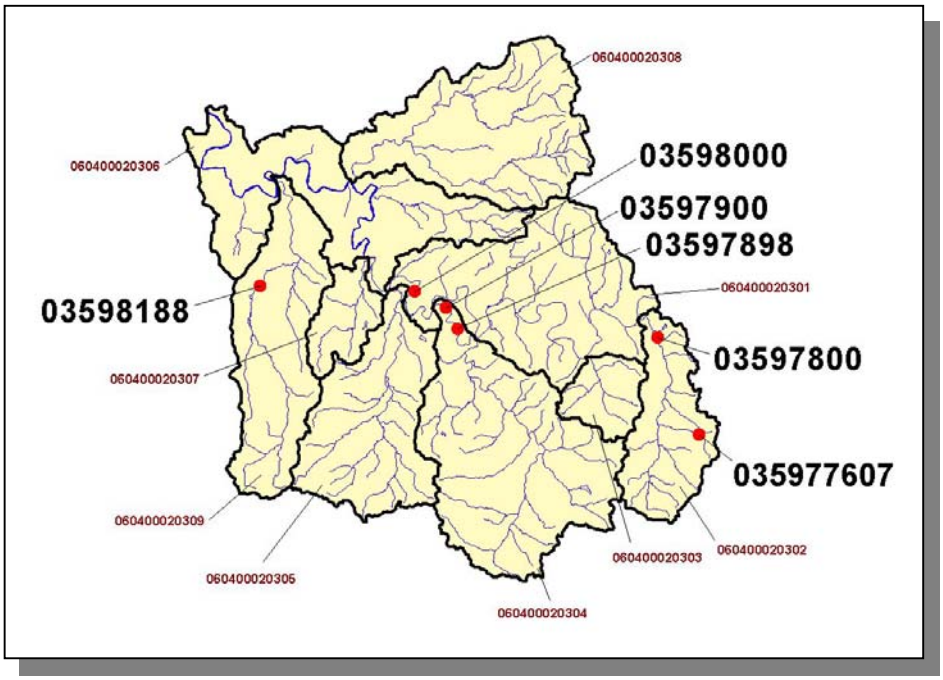

Figure 4-31. Location of Historical Streamflow Data Collection Sites in Subwatershed 0604000203. *Subwatershed 060400020301, 060400020302, 060400020303, 060400020304, 060400020305, 060400020306, 060400020307, 060400020308 and 060400020309 boundaries are shown for reference. More information is provided in Appendix IV.*

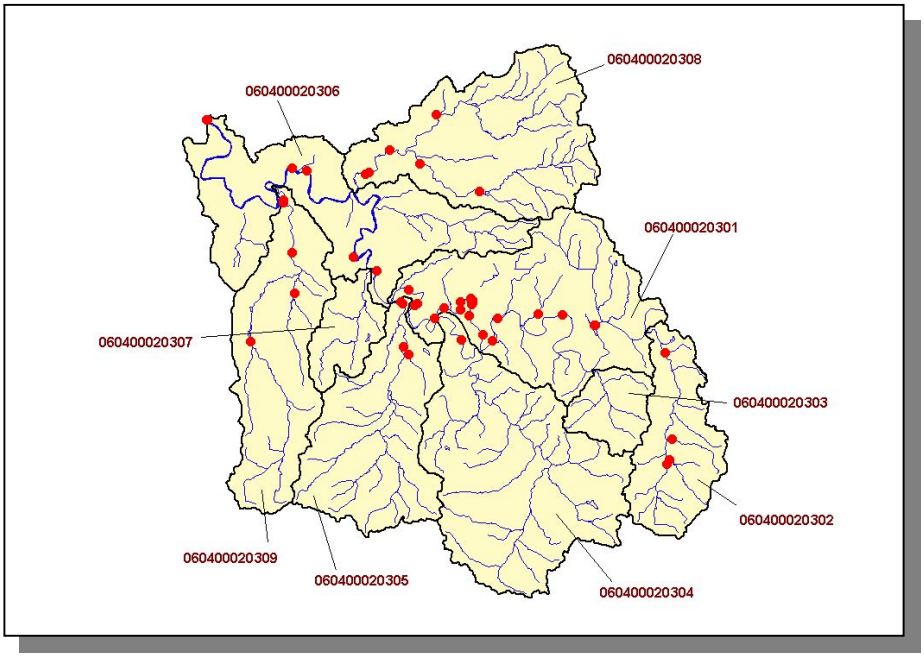

Figure 4-32. Location of STORET Monitoring Sites in Subwatershed 0604000203. *Subwatershed 060400020301, 060400020302, 060400020303, 060400020304, 060400020305, 060400020306, 060400020307, 060400020308 and 060400020309 boundaries are shown for reference. More information, including site names and locations, is provided in Appendix IV.*

4.2.C.ii. Point Source Contributions.

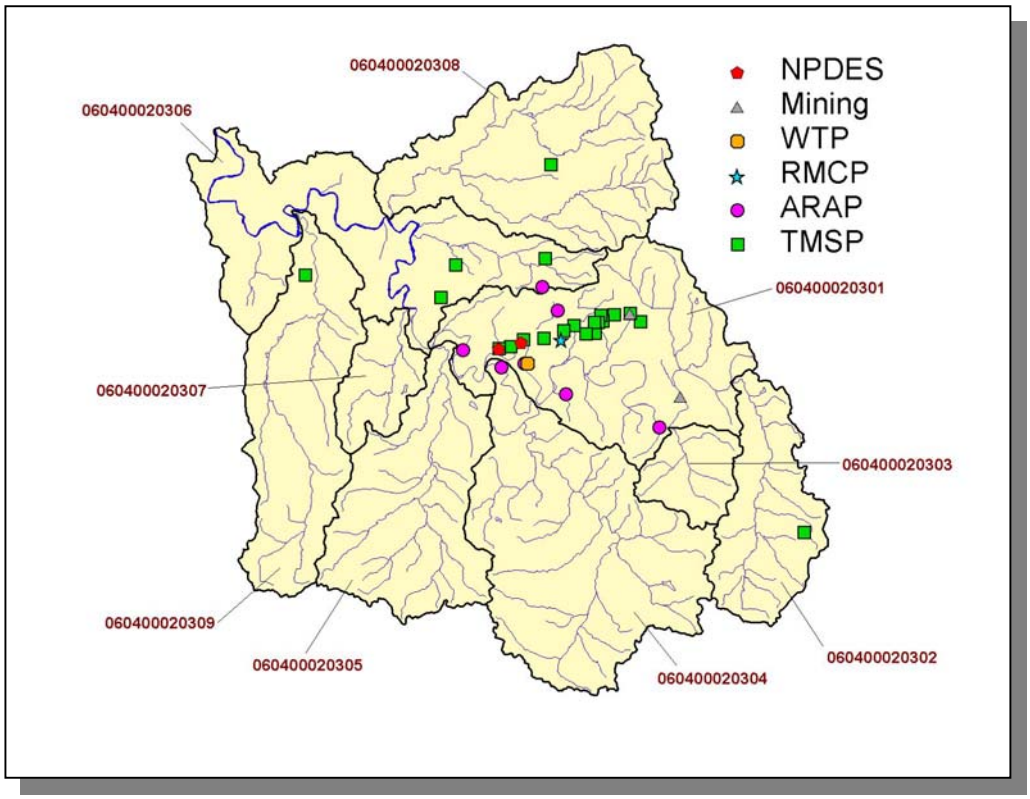

Figure 4-33. Location of Active Point Source Facilities in Subwatershed 0604000203. *Subwatershed 060400020301, 060400020302, 060400020303, 060400020304, 060400020305, 060400020306, 060400020307, 060400020308, and 060400020309 boundaries are shown for reference. More information, including the names of facilities, is provided in Appendix IV.*

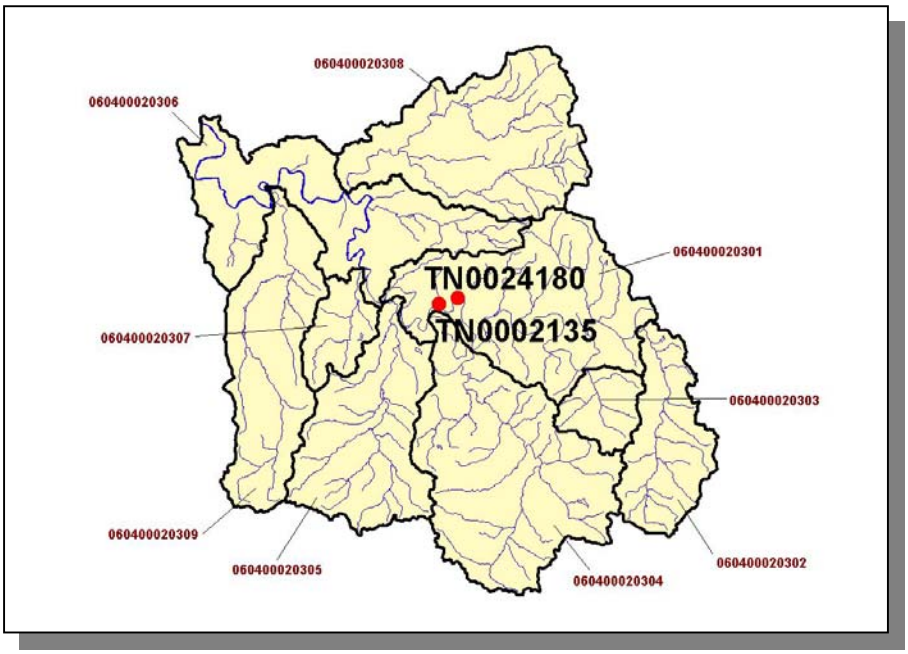

Figure 4-34. Location of NPDES Facilities in Subwatershed 0604000203. *Subwatershed 060400020301, 060400020302, 060400020303, 060400020304, 060400020305, 060400020306, 060400020307, 060400020308, and 060400020309 boundaries are shown for reference. More information, including the names of facilities, is provided in Appendix IV.*

Figure 4-35. Location of Active Mining Facilities in Subwatershed 0604000203. *Subwatershed 060400020301, 060400020302, 060400020303, 060400020304, 060400020305, 060400020306, 060400020307, 060400020308, and 060400020309 boundaries are shown for reference. More information, including the names of facilities, is provided in Appendix IV.*

Figure 4-36. Location of Water Treatment Plants in Subwatershed 0604000203. *Subwatershed 060400020301, 060400020302, 060400020303, 060400020304, 060400020305, 060400020306, 060400020307, 060400020308, and 060400020309 boundaries are shown for reference. More information, including the names of facilities, is provided in Appendix IV.*

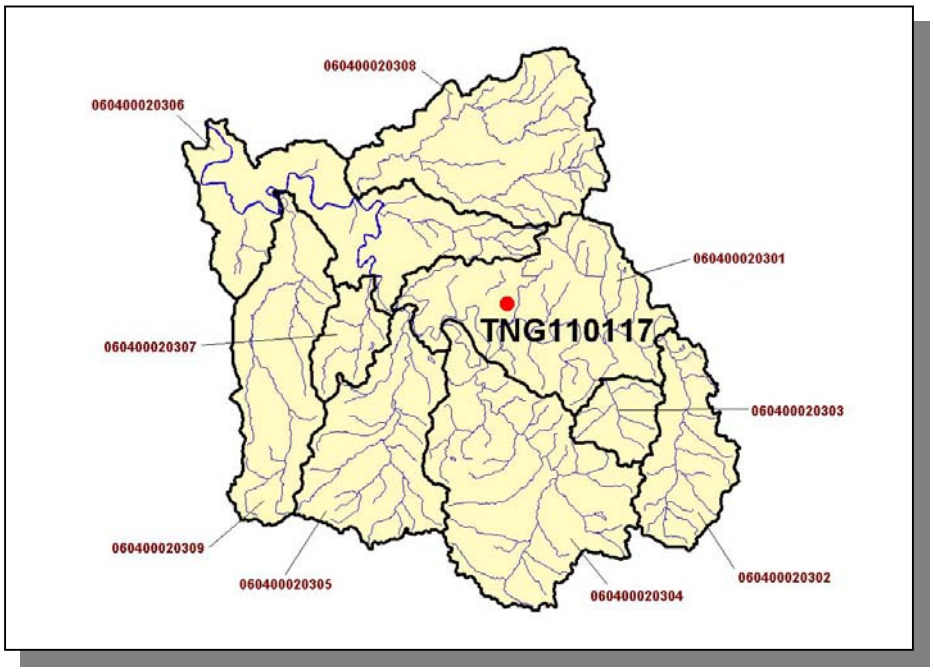

Figure 4-37. Location of Ready Mix Concrete Plants in Subwatershed 0604000203. *Subwatershed 060400020301, 060400020302, 060400020303, 060400020304, 060400020305, 060400020306, 060400020307, 060400020308, and 060400020309 boundaries are shown for reference. More information, including the names of facilities, is provided in Appendix IV.*

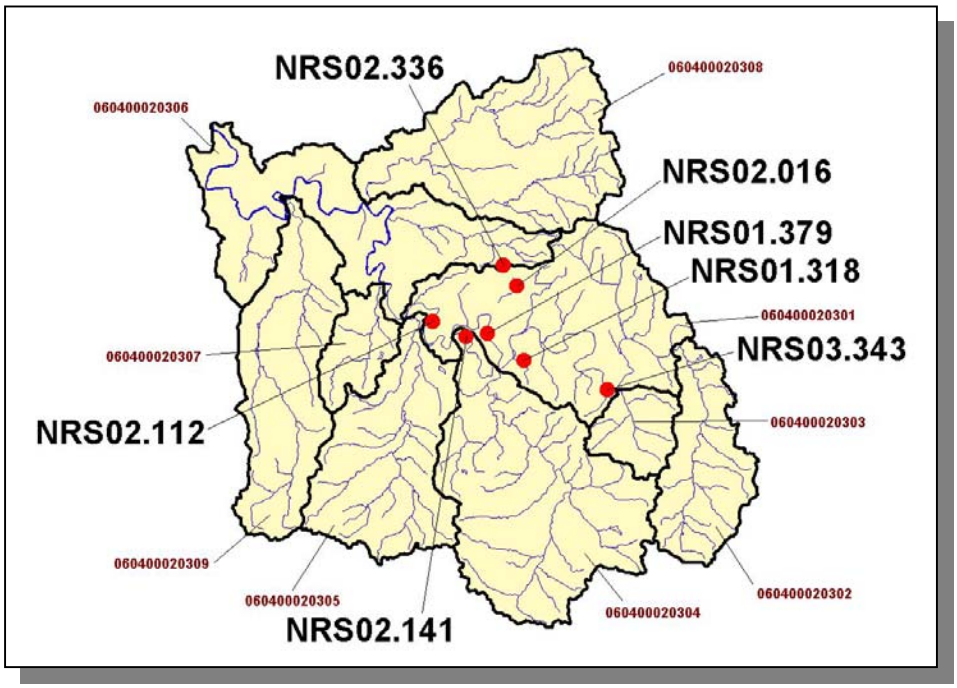

Figure 4-38. Location of ARAP Sites (Individual Permits) in Subwatershed 0604000203. *Subwatershed 060400020301, 060400020302, 060400020303, 060400020304, 060400020305, 060400020306, 060400020307, 060400020308, and 060400020309 boundaries are shown for reference. More information, including the names of facilities, is provided in Appendix IV.*

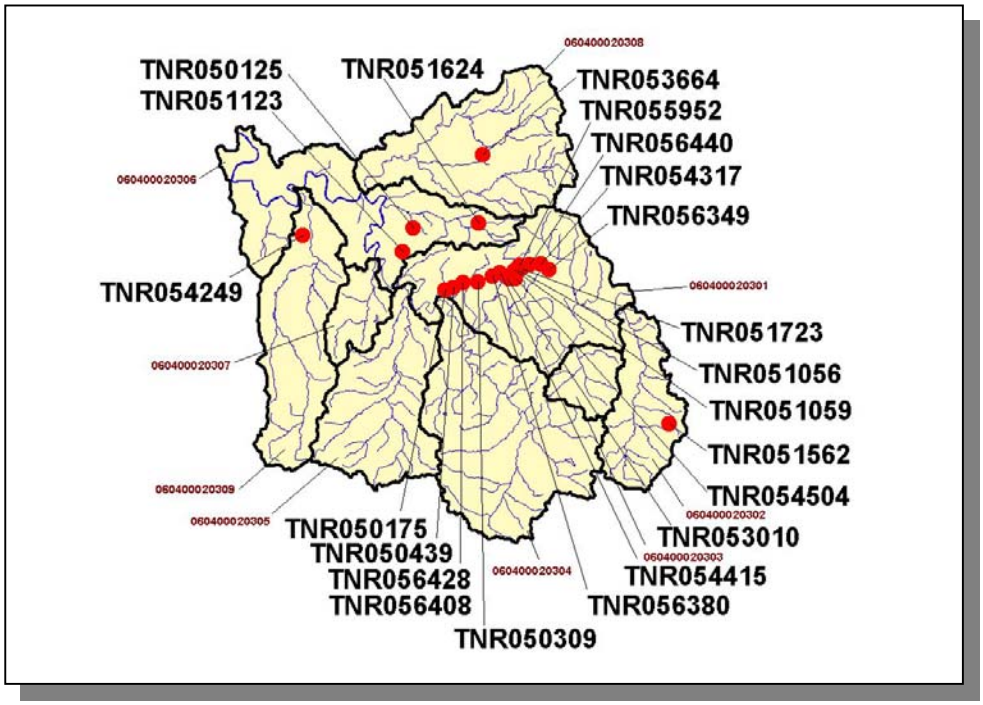

Figure 4-39. Location of TMSP Facilities in Subwatershed 0604000203. *Subwatershed 060400020301, 060400020302, 060400020303, 060400020304, 060400020305, 060400020306, 060400020307, 060400020308, and 060400020309 boundaries are shown for reference. More information, including the names of facilities, is provided in Appendix IV.*

4.2.C.ii.a. Dischargers to Water Bodies Listed on the 2002 303(d) List

There are two NPDES facilities discharging to water bodies listed on the 2002 303(d) list in Subwatershed 0604000203:

- TN0024180 (Shelbyville STP) discharges to Duck River @ RM 221.3
- TN0002135 (Tyson Foods) discharges to Duck River @ RM 220.5

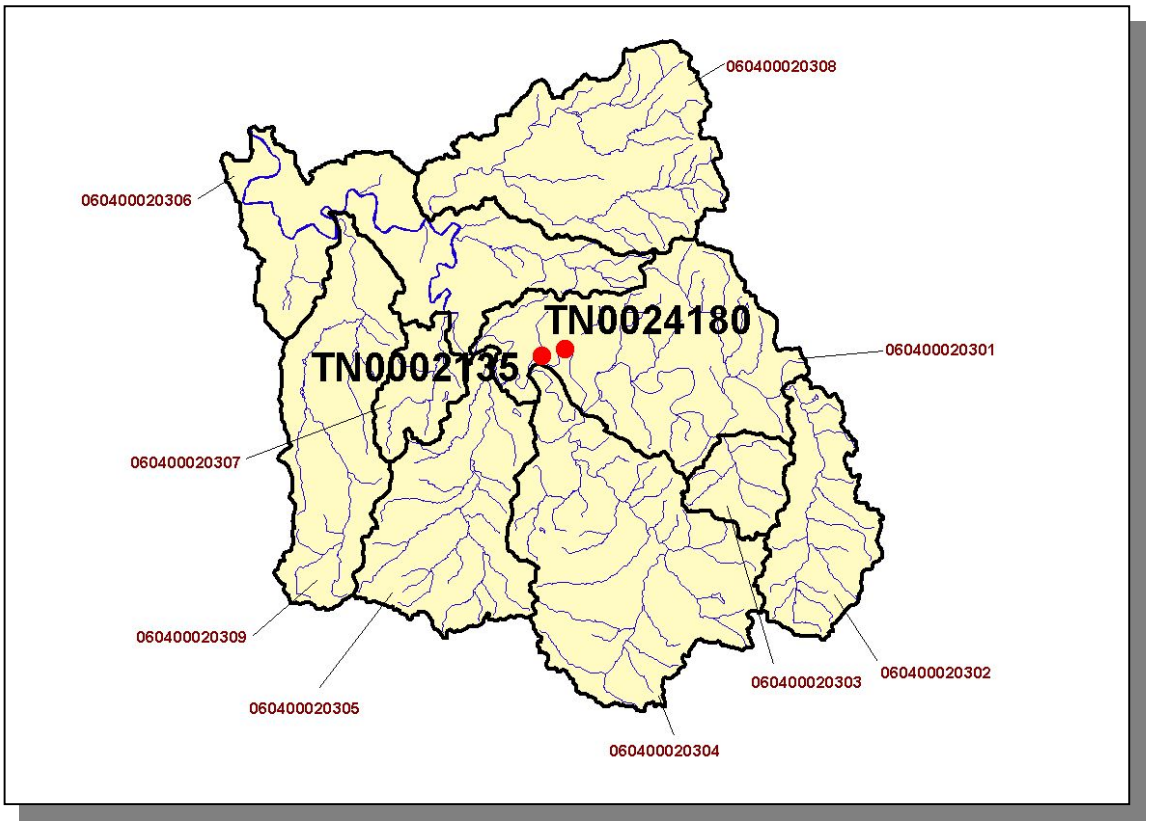

Figure 4-40. Location of NPDES Dischargers to Water Bodies Listed on the 2002 303(d) List in Subwatershed 0604000203. *Subwatershed 060400020301, 060400020302, 060400020303, 060400020304, 060400020305, 060400020306, 060400020307, 060400020308, and 060400020309 boundaries are shown for reference. More information, including the names of facilities, is provided in Appendix IV.*

PERMIT #	1Q10	3Q10	7Q10	3Q20	QDESIGN
TN0024180	58.6	59.6	60.8	53.8	4.9
TN0002135	58.6	59.6	60.8	53.8	

Table 4-21. Receiving Stream Flow Information for NPDES Dischargers to Waterbodies Listed on the 2002 303(d) List in Subwatershed 0604000203. *Data are in million gallons per day (MGD). Data were obtained from the USGS publication Flow Duration and Low Flows of Tennessee Streams Through 1992 or from permit files.*

PERMIT #	WET	$CBOD_5$	FECAL COLIFORM	NH_3	*E. COLI*	TRC	TSS	SETTLEABLE SOLIDS	DO	pH
TN0024180	X	X	X		X	X	X	X	X	X
TN0002135	X	X	X	X		X	X	X	X	X

Table 4-22. Parameters Monitored for Daily Maximum Limits for NPDES Dischargers to Waterbodies Listed on the 2002 303(d) List in Subwatershed 0604000203. *WET, Whole Effluent Toxicity; $CBOD_5$, Carbonaceous Biochemical Oxygen Demand (5-Day); TRC, Total Residual Chlorine; TSS, Total Suspended Solids.*

4.2.C.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)						
Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Chickens (Broilers Sold)	Hogs	Sheep
13,302	27,478	1,815	38	12,432,564	1,850	189

Table 4-23. Summary of Livestock Count Estimates in Subwatershed 0604000203. *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older; "Chickens Sold" are all chickens used to produce meat.*

	INVENTORY		REMOVAL RATE	
County	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Bedford	74.6	74.6	0.5	1.3
Lincoln	136.7	136.7	1.1	3.2
Moore	36.6	36.6	0.0	0.0
Totals	**247.9**	**247.9**	**1.6**	**4.5**

Table 4-24. Forest Acreage and Average Annual Removal Rates (1987-1994) in Subwatershed 0604000203.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.77
Grass (Hayland)	1.23
Legumes (Hayland)	0.30
Legumes, Grass (Hayland)	0.56
Grass, Forbs, Legumes (Mixed Pasture)	0.48
Forest Land (Not Grazed)	0.00
Forest Land (Grazed)	0.00
Corn (Row Crops)	4.29
Potatoes (Row Crops)	3.04
Soybeans (Row Crops)	6.09
Tobacco (Row Crops)	9.27
Wheat (Close-Grown Cropland)	2.26
Other Vegetable and Truck Crop	2.52
Summer Fallow (Other Cropland)	4.62
Other Cropland not Planted	0.23
Other Lands in Farms	0,21
Conservation Reserve Program Lands	0.33
Non-Agricultural Land Use	0.00
Farmsteads and Ranch Headquarters	0.05

Table 4-25. Annual Estimated Total Soil Loss in Subwatershed 0604000203.